SOME NEW BOOKS.

Darwin.

The book entitled *Charles Darwin*, by his son, FRANCIS DARWIN (Appletons), consists of an autobiographical chapter supplemented by many interesting reminiscences and selections from published letters. It is not merely an abbreviation of the "Life and Letters" published some six years ago, for it contains new matter and is altogether a better constructed and more readable narrative. The parts of this volume which will be found especially satisfactory are the brief autobiography found among Darwin's papers, the account of his religious views, which is fuller than anything hitherto published on the subject, and the recollections contributed by his son. It is chiefly these data with which we shall deal, though it is worth while to glance at the genealogical sketch with which the book begins.

Charles Darwin was, on both the paternal and the maternal side, a striking example of the influence of heredity. He was the grandson of Erasmus Darwin, sometimes described as a poet, but more deservedly known as a physician and naturalist. The mother of Charles Darwin was a daughter of Josiah Wedgwood, the well-known potter of Etruria in Staffordshire. The author of this narrative suggests that his father inherited his sweetness of disposition from the Wedgwood side, while the trend and character of his genius came from the Darwin grandfather. The particular influence, however, of the subject's father, Dr. Robert Darwin, ought not to be overlooked. His mental characteristics were his keen powers of observation and his knowledge of men, qualities which are said to have enabled him to read the characters and even the thoughts of those whom he saw even for a short time. Charles Darwin's reverence for his father was boundless and most touching. His recollection of everything that was connected with him was peculiarly distinct, and he spoke of him frequently, generally prefacing an anecdote with some such phrase as, "My father, who was the wisest man I ever knew," &c. It was, we are told, astonishing how clearly he remembered his father's opinions, so that he was able to quote some maxim or hint of his in many cases of illness. As a rule he put small faith in doctors, and thus his unlimited belief in Dr. Darwin's medical instinct and methods of treatment was all the more noteworthy.

I.

Charles Darwin was born at Shrewsbury on Feb. 12, 1809, but he says that his earliest recollection goes back only to when he was a few months over four years old. He was a little more than eight years of age when his mother died, but he tells us that he can remember hardly anything about her, except her deathbed, her black velvet gown, and her curiously constructed work table. In the spring of the same year he was sent to a day school in Shrewsbury, where he remained twelve months, and where he is said to have been much slower in learning than his younger sister, Catherine. Even at this early age, however, his taste for natural history, and more especially for collecting, was well developed. The passion for collecting which leads a man to become a systematic naturalist, a virtuoso, or a miser, must have been innate in Charles Darwin, as none of his sisters or brothers ever had this taste. "I can say," writes Darwin in his autobiography, "that I was as a boy humane, but I owed this entirely to the instruction and example of my sisters. I doubt, indeed, whether humanity is a natural quality. I was very fond of collecting eggs, but I never took more than a single bird out of a bird's nest except on a single occasion, when I took all, from a sort of bravado." He adds: "I had a strong taste for angling, and would sit for a number of hours on the bank of a river watching the float; but after I was told that I could kill the worms with salt and water, I never spitted a living worm, though at the expense probably of some success. Once as a very little boy I acted cruelly, for I beat a puppy simply, I believe, to enjoy the sense of power; but the beating could not have been very severe, for the puppy did not howl. This act lay heavily on my conscience, as is shown by my remembering the exact spot where the crime was committed."

In the summer of 1818 Darwin was sent to the famous public school at Shrewsbury, of which Dr. Butler was head master, and here he stayed for seven years till 1825, when he was 16 years old. "Nothing," we read in the autobiography, "could have been worse for the development of my mind than Dr. Butler's school, as it was strictly classical, nothing but Greek and Latin being taught, except a little ancient geography and history. The school as a means of education to me was simply a blank. During my whole life I have been singularly incapable of mastering a language. Especial attention was paid to the making of Latin verses, and this I could never do well." Much heed was also given to learning by heart the lessons of the preceding day. This Darwin could effect, he says, with great facility, learning forty or fifty lines of Virgil or Homer while he was in morning chapel, but the exercise proved utterly useless, every verse being forgotten in forty-eight hours. The sole pleasure he ever received from such studies was from some of the odes of Horace, which he greatly admired. Looking back at his character as it was evolved during his life at school, Darwin sees that the only qualities which promised well were that he had strong and diversified tastes, much zeal for whatever interested him, and a keen pleasure in comprehending any complex subject. He was taught Euclid by a private tutor, and in old age could still distinctly remember the intense satisfaction which the clear geometrical proofs gave him. With respect to the liking of studies outside of science, he recalls that he was fond of reading various books, and that he used to sit for hours perusing the historical works of Shakespeare. He read likewise other poetry, such as Thomson's "Seasons" and the then recently published poems of Byron and Scott. He mentions these facts, he tells us, because later in life he lost all pleasure from poetry of any kind, including the works of Shakespeare. In connection with pleasure from poetry, he adds that at the age of 13 a vivid delight in scenery was awakened in his mind during a riding tour on the borders of Wales; and this, he says, lasted longer than any other æsthetic pleasure. With respect to science Darwin, while at Shrewsbury School, continued collecting minerals with much zeal, but quite unscientifically. He thinks, however, that he must have observed insects with some care, and after reading White's "Selborne" he took much pleasure in watching the habits of birds, and even made notes on the subject. He remembers wondering in his simplicity why every gentleman did not become an ornithologist. One more point should be noted. With his elder brother he secretly worked a good deal at chemical experiments, and read with care several books on chemistry. This in after years he regarded as the best part of his education at school, because it showed him practically the meaning of experimental science. The fact that the two boys worked at chemistry somehow got to be known at school, and as it was an unprecedented fact, Charles Darwin was nicknamed "Gas." He was also once publicly rebuked by Dr. Butler for wasting his time upon such useless subjects, and was held up to derision as a *poco curante*.

II.

On the ground that he was doing no good at school, Darwin's father took him away at an earlier age than usual, and sent him to Edinburgh University, where he stayed for two years or sessions. It was hoped at this time that he would become a physician, but the boy's inclinations did not lie in that direction. He found the lectures on human anatomy dull, and the subject disgusted him. On two occasions he attended the operating theatre in the hospital at Edinburgh, and saw two very bad operations, one on a child, but he rushed away before they were completed. He tells us that hardly any inducement would have been strong enough to make him attend again; for this was long before the days of chloroform. Nevertheless he declares that "it has proved one of the greatest evils in my life that I was not urged to practise dissection, for I should soon have got over my disgust, and the practice would have been invaluable for all my future work. This has been an irremediable evil, as well as my incapacity to draw." The advantage that Darwin derived from his sojourn at Edinburgh was that he became well acquainted with several young men fond of natural science. He was walking one day with one of these—a Dr. Grant, who published some noteworthy zoological papers—when suddenly the latter burst forth in high admiration of Lamarck and his views on evolution. Darwin says: "I listened in silent astonishment, and, as far as I can judge, without any effect upon my mind. I had previously read the 'Zoönomia' of my grandfather, in which similar views are maintained, but without producing any effect on my mind. Nevertheless, it is probable that the hearing rather early in life such views upheld and praised may have favored my upholding them under a different form in my 'Origin of Species.'" We should further mention that while at Edinburgh Darwin attended some lectures on geology and zoölogy, but these, too, seemed to him intolerably dull. The sole effect they produced on him was to beget a determination never, as long as he lived, to read a book on geology, or in any way to study that science. With zoölogy it was different. Although he possessed only a wretched microscope, Darwin succeeded in making some minor zoölogical discoveries which he set forth in papers read before the Plinian Society.

III.

After Darwin had spent two years at Edinburgh his father perceived or heard that he did not like the thought of being a physician, so he proposed that his son should become a clergyman. In pursuance of this plan the future naturalist, not entertaining at that time the least doubt of the literal truth of every word in the Bible, and being persuaded that the Anglican creed must be fully accepted, proceeded to Cambridge University in 1828. Concerning the vocation chosen for him at this time Darwin writes in his autobiography: "Considering how fiercely I have been attacked by the orthodox it seems ludicrous that I once intended to be a clergyman. Nor was this intention and my father's wish ever formally given up, but died a natural death when, on leaving Cambridge, I joined the Beagle as naturalist. If phrenologists are to be trusted, I was well fitted in one respect to be a clergyman. A few years ago the secretaries of a German psychological society asked me earnestly by letter for a photograph of myself; and some time afterward I received a report of the proceedings at one of their meetings, in which it seemed that the shape of my head had been the subject of a public discussion, and one of the speakers declared that I had the bump of reverence developed enough for ten priests."

It was Darwin's conviction that during the three years which he spent at Cambridge his time was wasted, as far as the academical studies were concerned—wasted as completely as it had been at Edinburgh and at Shrewsbury. He attempted mathematics, of which so much account is made at Cambridge, but the work was repugnant to him, chiefly, as he afterward thought, from his not being able to see any meaning in the early steps of algebra. He says in the autobiographical sketch that "this impatience was very foolish, and in after years I have often regretted that I did not proceed far enough at least to understand something of the great leading principles of mathematics, for men thus endowed seem to have an extra sense. But I do not believe that I ever should have succeeded beyond a very low grade. With respect to classics I did nothing except attend a few compulsory college lectures." Elsewhere he notes that "in order to pass the B. A. examination, it was necessary to get up Paley's 'Evidences of Christianity' and his 'Moral Philosophy.' This was done in a thorough manner, and I am convinced that I could have written out the whole of the Evidences with perfect correctness, but not, of course, in the clear language of the author. The logic of this book gave me as much delight as did Euclid. The careful study of Paley's works was the only part of the academical course which, as I then felt, and as I still believe, was of the least use to me in the education of my mind. I did not at that time trouble myself about Paley's premises; and, taking these on trust, I was charmed and convinced by the long line of argumentation."

Strange to say, Darwin did not profit while at Cambridge by Sedgwick's lectures on geology; had he done so, he would doubtless have become a geologist earlier than he did. Neither did he study botany, though he attended Henslow's lectures on that science. The truth is that Darwin, owing to his passion for hunting and shooting, got into a sporting set, which included some dissipated young men. "We used often," he recalls, "to dine together in the evening, and we sometimes drank too much, with jolly singing and playing at cards afterward. I know that I ought to feel ashamed of days and evenings thus spent, but as some of my friends were very pleasant, and we were all in the highest spirits, I cannot help looking back to these times with much pleasure." There was, however one feature of Darwin's undergraduate life which had a direct bearing on his subsequent career. "No pursuit at Cambridge," he tells us, "was followed with so much eagerness or gave me so much pleasure as collecting beetles. It was," he adds, modestly, "the mere passion for collecting, for I did not dissect them, and rarely compared their external characters with published descriptions, but got them named anyhow." No doubt it was this taste for collecting beetles that commended Darwin to the notice, and eventually to the friendship, of Prof. Henslow, who possessed a great deal of knowledge in entomology, botany, chemistry, mineralogy, and geology. Sometimes, after dining with Henslow, the young undergraduate had the privilege of walking home with Dr. Whewell, and we are not surprised to hear him testify that, next to Sir James Mackintosh, Whewell was the best converser on grave subjects to whom he ever listened. Of course, Darwin is justified in saying that, "looking back, I infer that there must have been something in me a little superior to the common run of youths, otherwise the above-mentioned men, so much older than me and higher in academical position, would never have allowed me to associate with them." The following words are characteristic: "Certainly I was not aware of any such superiority, and I remember one of my sporting friends, Turner, who saw me at work with my beetles, saying that I should some day be a Fellow of the Royal Society, and the notion seemed to me preposterous." The impression which he made on Prof. Henslow was shown by the fact that he was recommended to Capt. Fitz-Roy of the Beagle as a competent naturalist to accompany him on his voyage round the world. With the results of that voyage, and of the scientific studies to which it gave the impulse, the world is familiar; and we therefore pass at once to an interesting subject, as to which hitherto we have had but little information, namely, the views with reference to religion at which Charles Darwin ultimately arrived. Full enlightenment upon this subject is for the first time attainable in a chapter of this volume for which we are indebted to his son.

IV.

In beginning his chapter on Religion, Mr. Francis Darwin reminds us that his father in his published works was reticent on the matter of religion, and that what he has left on the subject was not written with a view to publication. Mr. Francis Darwin believes that his father's reticence arose from several causes. He felt strongly that a man's religion is an essentially private matter and one concerning himself alone. This is indicated by the following extracts from a letter of 1879: "What my own views may be is a question of no consequence to any one but myself. But as you ask, I may state that my judgment often fluctuates. In my most extreme fluctuations I have never been an atheist in the sense of denying the existence of a God. I think that generally (and more and more as I grow older), but not always, that an agnostic would be the more correct description of my state of mind." Darwin seems to have shrunk from wounding the sensibilities of others in religious matters, and he was also influenced by the consciousness that a man ought not to publish on a subject to which he has not given special and continuous thought. That he felt this caution to apply to himself in the matter of religion is shown in a letter to Dr. F. E. Abbott of Cambridge, United States. After explaining that the weakness arising from bad health prevented him from feeling "equal to deep reflection on the deepest subject which can fill a man's mind," he goes on to say: "With respect to my former notes to you, I quite forget their contents. I have to write many letters, and can reflect but little on what I write; but I fully believe and hope that I have never written a word which at the time I did not think; but I think you will agree with me that anything which is to be given to the public ought to be materially weighed and cautiously put." What follows is from another letter to Dr. Abbott, in which Darwin gives more fully his reasons for not feeling competent to write on religious and moral subjects: "I can say with entire truth that I feel honored by your request that I should become a contributor to the *Index*, but I cannot comply with your request for the following reasons and excuse me for giving them in some detail, as I should be very sorry to appear in your eyes ungracious. My health is very weak. I never pass twenty-four hours without many hours of discomfort, when I can do nothing whatever. Owing to this weakness and my head being often giddy, I am unable to master new subjects requiring much thought, and can deal only with old material. At no time am I a quick thinker or writer; whatever I have done in science has solely been by long pondering, patience, and industry. Now, I have never systematically thought much on religion in relation to science, or on morals in relation to society; and, without steadily keeping my mind on such subjects for a long period, I am really incapable of writing anything worth sending to the *Index*." Nevertheless, he had, as a rule, no objection to giving his views on religion in a private letter. Thus, in answer to a Dutch student, he wrote (April 2, 1873): "I am sure you will excuse my writing at length, when I tell you I have long been out of health and am now staying away from my home for rest. It is impossible to answer your question briefly, and I am not sure that I could do so even if I wrote at some length. But I may say that the impossibility of conceiving that this grand and wondrous universe with our conscious selves arose through chance, seems to me the chief argument for the existence of God; but whether, this is an argument of real value I have never been able to decide. I am aware that if we admit a first cause the mind still craves to know whence it came and how it arose. Nor can I overlook the difficulty from the immense amount of suffering through the world. I am, on the other hand, induced to defer to a certain extent to the judgment of the many able men who have fully believed in God; but here again I see how poor an argument this is. The safest conclusion seems to me that the subject is beyond the scope of man's intellect; but man can do his duty."

In 1879, when Darwin was applied to by a German student in a similar manner, he answered: "I am much engaged, an old man, and out of health, and I cannot spare time to answer your questions fully, nor, indeed, can they be answered. Science has nothing to do with Christ, except in so far as the habit of scientific research makes a man cautious in admitting evidence. For myself, I do not believe that there ever has been any revelation. As for a future life, every man must judge for himself between conflicting probabilities."

V.

The compiler of this biography appends certain extracts not heretofore printed from Darwin's autobiography, but written in 1876, in which his father gives up to that time the history of his religious views: "During these two years (October, 1836, to January, 1839) I was led to think much about religion. Whilst on board the Beagle I was quite orthodox, and I remember being heartily laughed at by several of the officers, though themselves orthodox, for quoting the Bible as an unanswerable authority on some point of morality. I had gradually come by this time to see that the Old Testament was no more to be trusted than the sacred books of the Hindoos. The question then continually rose before my mind, and would not be banished, is it credible that if God were now to make a revelation to the Hindoos he would permit it to be connected with the belief in Vishnu, Siva, &c., as Christianity is connected with the Old Testament? This appeared to me utterly incredible. By further reflecting that the clearest evidence would be requisite to make any sane man believe in the miracles by which Christianity is supported, and that the more we know of the fixed laws of nature the more incredible do miracles become; that the men of that time were ignorant and credulous to a degree almost incomprehensible to us; that the Gospels cannot be proved to have been written simultaneously with the events; that they differ in many important details, far too important to be admitted as the usual inaccuracies of eyewitnesses; by such reflections as these, I gradually came to disbelieve in Christianity as a divine revelation. The fact that many false religions have spread over large portions of the earth like wildfire had some weight with me. But," adds Darwin, "I was very unwilling to give up my belief. I feel sure of this, for I can well remember often and often inventing day dreams of old letters between distinguished Romans and manuscripts being discovered at Pompeii or elsewhere which confirmed in the most striking manner all that was written in the Gospel. But I found it more and more difficult, with free scope given to my imagination, to invent evidence which would suffice to convince me. Thus unbelief crept over me at a very slow rate, but was at last complete. The rate was so slow that I felt no distress. Although I did not think much about the existence of a personal God until a considerably later period of my life, I will here give the vague conclusion to which I have been driven. The old argument from design in nature, as given by Paley, which formerly seemed to me conclusive, fails now that the law of natural selection has been discovered. We can no longer argue that, for instance, the beautiful hinge of a bivalve shell must have been made by an intelligent being like the hinge of a door by man. There seems to be no more design in the variability of organic beings and in the action of natural selection than in the course the wind blows."

Darwin proceeds to say that "Passing over the endless beautiful adaptations which we everywhere meet with, it may be asked how can the generally beneficent arrangement of the world be accounted for? Some writers are so much impressed with the amount of suffering in the world that they doubt, if we look to all sentient beings, whether there is more of misery or of happiness; whether the world as a whole is a good or a bad one. According to my judgment, happiness decidedly prevails, though this would be very difficult to prove. If the truth of this conclusion be granted, it harmonizes well with the effects which we might expect from natural selection. If all the individuals of any species were habitually to suffer to an extreme degree, they would neglect to propagate their kind; but we have no reason to believe that this has ever, or at least often, occurred. Some other considerations, moreover, lead to the belief that all sentient beings have been formed so as to enjoy, as a general rule, happiness." Darwin goes on to aver that every one who believes, as he does, "that all the corporeal and mental organs (excepting those which are neither advantageous nor disadvantageous to the possessor) of all beings have been developed through natural selection or the survival of the fittest, together with use or habit, will admit that these organs have been formed so that their possessors may compete successfully with other beings, and thus increase in number." Darwin explains that "an animal may be led to pursue that course of action which is most beneficial to the species by suffering, such as pain, hunger, thirst, and fear; or by pleasure, as in eating and drinking and in the propagation of the species, &c.; or by both means combined, as in the search for food. But pain or suffering of any kind, if long continued, causes depression and lessens the power of action that is well adapted to make a creature guard itself against any great or sudden evil. Pleasurable sensations, on the other hand, may be long continued without any depressing effect; on the contrary, they stimulate the whole system to increased action. Hence it has come to pass that most or all sentient beings have been developed in such a manner through natural selection that pleasurable sensations serve as their habitual guides. We see this in the pleasure from exertion, even occasionally from great exertion of the body or mind—in the pleasure of our daily meals, and especially in the pleasure derived from sociability and from loving our family. The sum of such pleasures as these, which are habitual or frequently recurrent, give, as I can hardly doubt, to most sentient beings an excess of happiness over misery, although many occasionally suffer much. Such suffering is quite compatible with the belief in natural selection, which is not perfect in its action, but tends only to render each species as successful as possible in the battle for life with other species in wonderfully complex and changing circumstances."

Darwin, of course, does not dispute that there is much suffering in the world. He points out that "some have attempted to explain this with reference to man by imagining that it serves for his moral improvement. But the number of men in the world is as nothing compared with that of all other sentient beings, and they often suffer greatly without any moral improvement." This very old argument from the existence of suffering against the existence of an intelligent First Cause seemed to Darwin a strong one. Nevertheless, he contends that the presence of much suffering agrees well with the view that all organic beings have been developed through variation and natural selection. He then touches a point of deep interest to most readers: "At the present day, the most usual argument for the existence of an intelligent God is drawn from the deep inward conviction and feeling which are experienced by most persons." Darwin acknowledges that "formerly I was led by feelings such as those just referred to (although I do not think that the religious sentiment was ever strongly developed in me) to the firm conviction of the existence of God and of the immortality of the soul. In my journal (of the voyage in the Beagle) I wrote that, 'while standing in the midst of the grandeur of a Brazilian forest, it is not possible to give an adequate idea of the higher feelings of wonder, admiration, and devotion which fill and elevate the mind.' I well remember my conviction that there is more in man than the mere breath of his body; but now the grandest scene would not cause any such conviction and feeling to rise in my mind. It may be truly said that I am like a man who has become color blind, and the universal belief by men of the existence of redness, for example, makes my present loss of perception of not the least value as evidence. This argument would be a valid one, if all men of all races had the same inward conviction of the existence of one God; but we know that this is very far from being the case. Therefore, I cannot see that such inward convictions and feelings are of any weight as evidence of what really exists. The state of mind which grand scenes formerly excited in me, and which was intimately connected with a belief in God, did not essentially differ from that which is often called the sense of sublimity; and however difficult it may be to explain the genesis of this sense, it can hardly be advanced as an argument for the existence of God any more than the powerful though vague and similar feelings excited by music."

On another point of supreme moment Darwin sums up his views as follows: "With respect to immortality, nothing shows me so clearly how strong and almost instinctive a belief it is as the consideration of the view now held by most physicists, namely, that the sun with all the planets will in time grow too cold for life, unless, indeed, some great body dashes into the sun and thus gives it fresh life. Believing as I do that man in the distant future will be a far more perfect creature than he now is, it is an intolerable thought that he and all other sentient beings are doomed to complete annihilation after such long continued slow progress. To those who fully admit the immortality of the human soul the destruction of our world will not appear so dreadful. Another source of conviction of the existence of God, connected with the reason and not with the feelings impresses me as having much more weight. This follows from the extreme difficulty, or rather impossibility, of conceiving this immense and wonderful universe, including man, with his capacity of looking far backward and far into futurity as the result of blind chance or necessity. When thus reflecting, I feel compelled to look to a First Cause having an intelligent mind in some degree analogous to that of man, and I deserve to be called a Theist. This conclusion was strong in my mind about the time, as far as I can remember, when I wrote the "Origin of Species," and it is since that time that it has very gradually with many fluctuations become weaker. But then arises the doubt—can the mind of man, which has, as I fully believe, been developed from a mind as low as that possessed by the lowest animals, be trusted when it draws such grand conclusions? I cannot," concludes Darwin, "pretend to throw the least light on such abstruse problems. The mystery of the beginning of all things is insoluble by us, and I, for one, must be content to remain an agnostic."

VI.

The substance of these extracts from Darwin's Autobiography is repeated and emphasized in letters from which we make the following excerpt: Writing to Mr. W. Graham, in 1881, he says, apropos of the Creed of Science, "It is a very long time since any other book has interested me so much. The work must have cost you several years and much hard labor with full leisure to work. There are some points in your book which I cannot digest. The chief one is that the existence of so-called natural laws implies purpose. I cannot see that. Not to mention that many expect that the several great laws will some day be found to follow inevitably from some one single law, yet taking the laws as we now know them, and looking at the moon where the law of gravitation, the law of the conservation of energy and the law of the atomic theory, hold good, I cannot see that there is necessarily any purpose. Would there be purpose if the lowest organisms alone, destitute of consciousness, existed in the moon? But," adds Darwin, with humility, "I have had no practice in abstract reasoning, and I may be all astray. Nevertheless, you have expressed my inward conviction, and though far more vividly and clearly than I could have done, that the universe is not the result of chance. But then with me the horrid doubt always arises whether the convictions of man's mind, which has been developed from the minds of the lower animals, are of any value or at all trustworthy. Would any one trust in the convictions of a monkey's mind, if there are any convictions in such a mind? Secondly, I think that I could make somewhat of a case against the enormous importance which you attribute to our greatest men; I have been accustomed to think second, third, and fourth rate men of very high importance; at least, in the case of science. Lastly, I could show fight on natural selection having done and doing more for the progress of civilization than you seem inclined to admit. Remember what risk the nations of Europe ran not so many centuries ago of being overwhelmed by the Turks and how ridiculous such an idea now seems. The more civilized so-called Caucasian races have beaten the Turkish hollow in the struggle for existence. Looking to the world at no very distant date, what an endless number of the lowest races will have been eliminated by the higher civilized races throughout the world!"

The Duke of Argyll has recorded a few words on this subject spoken by Charles Darwin in the last year of his life. "In the course," he says, "of a conversation I said to Mr. Darwin, with reference to some of his observations on the wonderful contrivances for certain purposes in nature—I said it was impossible to look at these without seeing that they were the effect and the expression of mind. I shall never forget Mr. Darwin's answer. He looked at me very hard and said, 'Well, that often comes over me with overwhelming force, but at other times,' and he shook his head vaguely, adding, 'it seems to go away.'"

The compiler of this volume points out that Dr. Aveling has published an account of a conversation with his father by which he thinks that readers may be misled into seeing more resemblance than really existed between the positions of Charles Darwin and Dr. Aveling. Mr. Francis Darwin says this in spite of his conviction that Dr. Aveling endeavored to give quite fairly his impressions of the great naturalist's views. Dr. Aveling tried to show that the terms agnostic and atheist were practically equivalent—that an atheist is one who, without denying the existence of God, is without God, inasmuch as he is unconvinced of the existence of a deity. Charles Darwin's reply implied his preference for the unaggressive attitude of an agnostic. Dr. Aveling seems to regard the absence of agressiveness in Darwin's views as distinguishing them only in an unessential manner from his own. But in Francis Darwin's judgment it is precisely differences of this kind which distinguish his father so completely from the class of thinkers to which Dr. Aveling belongs.

VII.

We do not purpose in this notice to dwell on any of Darwin's scientific achievements, with all of which every educated person is supposed to be familiar. We confine ourselves to giving a distinct idea of the man himself as revealed in his private life and his personal habits and idiosyncracies. To this end we avail ourselves of some of the recollections with which Francis Darwin has supplemented his father's brief autobiography. As to Darwin's personal appearance, this has been made known to us by photographs, and but little needs to be said upon the subject. He was about six feet in height, but scarcely looked so tall, as he stooped a good deal. He gave one the idea that in youth he had been active rather than strong; his shoulders were not broad for his height, though certainly not narrow. As a young man he must have had much endurance, for on one of the shore excursions from the Beagle, when all were suffering from want of water, he was one of the two who were better able than the rest to struggle on in search of it. As a boy he was active, and could jump a bar placed at the height of the "Adam's apple" in his neck. In spite of his activity he had no natural grace or neatness of movement. He was awkward with his hands. He walked with a swinging action, using a stick heavily shod with iron, which he struck loudly against the ground, producing as he went a rhythmical click with it. Indoors his step was often slow and labored, and as he went up stairs in the afternoon he might be heard mounting the stairs with a heavy footfall, as if each step were an effort. When interested in his work he moved about quickly and easily enough, and often in the midst of dictating he went eagerly into the hall to get a pinch of snuff. His beard was full and almost untrimmed, the hair being gray and white, fine rather than coarse, and wavy or frizzled. His moustache was somewhat disfigured by being cut short and square across. He became very bald, having only a fringe of dark hair behind. His face was ruddy in color, and this made people think him less of an invalid than he was. He wrote to Sir Joseph Hooker in 1849: "Every one tells me that I look quite blooming and beautiful; and most think I am shamming, but you have never been one of these." At this very time he was miserably ill, far worse than in later years. His eyes were bluish-gray, under deep, overhanging brows, with thick, bushy, projecting eyebrows. His high forehead was deeply wrinkled, but otherwise his face was not much marked or lined. His expression showed no signs of the continual discomfort he suffered. When he was excited with pleasant thoughts his whole manner was wonderfully bright and animated, and his face shared to the full in the general animation. His laugh was a free and sounding peal like that of a man who gives himself sympathetically and with enjoyment to the person and the thing which have amused them. He often used some sort of gesture with his laugh, lifting up his hands or bringing one down with a slap. He wore dark clothes of a loose and easy fit. In his later years he gave up the tall hat even in London, and wore a soft black one in winter and a big straw hat in summer. His usual out-of-doors dress was the short cloak in which a well-known photograph represents him leaning against a pillar of the veranda. Two peculiarities of his indoor dress were that he almost always wore a shawl over his shoulders, and that he had great, loose cloth boots lined with fur, which he could slip on over his indoor shoes. He rose early and took a short turn before breakfast, a habit which began when he went for the first time to a water cure establishment, and was preserved to almost the end of his life. After breakfasting alone about 7:45 he went to work at once, considering the next hour and a half one of his best working times. At 9:30 he came into the drawing room for his letters, rejoicing if the post was a light one. He would then hear any family letters read aloud as he lay on the sofa. The reading aloud, which also included part of a novel, lasted till about half-past 10, when he went back to work till 12 or a quarter past. By this time he considered his day's work over and would often say in a satisfied voice, "I've done a good day's work." He then went out of doors whether it was wet or fine. His midday walk generally began by a call at the greenhouse, where he looked at any experimental plants which required only a casual examination. Then he went on for his constitutional, in which he was always accompanied by a favorite dog. Then came luncheon, and apropos of it his son tells us something about his meals generally. It seems that Darwin had a boy-like love of sweets, unluckily for himself, since he was forbidden to take them. He was not particularly successful in keeping the "vows," as he called them, which he made against eating sweets, and never considered them binding unless he made them aloud. He drank very little wine, but enjoyed and was revived by the little he did drink. He had a horror of excessive drinking, and constantly warned his boys that any one might be led into drinking too much. His son Francis remembers how, in his innocence as a small boy, he asked him if he had ever been tipsy; his father answered very gravely that he was ashamed to say he had once drunk too much at Cambridge. After his luncheon Darwin would read the newspaper, lying on the sofa in the drawing room. A newspaper was the only non-scientific matter which he read to himself. Everything else, novels, travels, history, was read aloud to him. He took so wide an interest in life that there was much to occupy him in the daily journals. His interest in politics was considerable, but his opinions on such matters were formed rather hastily than with any serious amount of thought. After he had read his paper came his time for writing letters. He made a rule of keeping all letters that he received; this was a habit which he learned from his father, and which he said had been of great use to him. Many letters were addressed to him by foolish, unscrupulous people, yet all of these received replies. He used to say that if he did not answer them he had it on his conscience afterwards, and no doubt it was in a great measure the courtesy with which he answered every one that produced the widespread sense of his kindness of nature which was so evident on his death. He was considerate to his correspondents in lesser things; for instance, when dictating a letter to a foreigner, he hardly ever failed to say to his son, "You had better try and write well, as it's to a foreigner." He had, to be sure, a printed form to be employed in replying to troublesome correspondents, but he hardly ever used it; apparently because he never found an occasion that seemed to him exactly suitable. His rule was to thank the donors of books, but not of pamphlets. He sometimes expressed surprise that so few thanked him for his books, which he gave away liberally; the letters that he did receive gave him much pleasure, because he habitually formed so humble an estimate of the value of all his works that he was genuinely astonished at the interest which they excited.

When his letters were finished, about 3 in the afternoon, he rested in his bedroom, lying on the sofa smoking a cigarette and listening to a novel or other book not scientific. He only smoked when resting, whereas snuff was a stimulant and was taken during working hours. He generally took snuff from a jar on the hall table because having to go this distance for a pinch was a slight check. Sometimes, when he was in the drawing room, it would occur to him that the study fire must be burning low, and when one of the family offered to see after it, it would turn out that Darwin also wished to get a pinch of snuff. At 4 o'clock he came down to dress for his walk, and from about half past 4 to half past 5 he worked; then he came to the drawing room and was idle till it was time (about 6) to go up stairs for another rest, with novel reading and a cigarette. Latterly he gave up late dinners, and had a simple tea at half past 7 (while the rest of the family had dinner), with an egg or a small piece of meat. After dinner he never stayed in the room, and used to apologize by saying he was an old woman and must be allowed to leave with the ladies. This was one of the many signs and results of his constant weakness and ill health. Half an hour more conversation than usual would make to him a difference of a sleepless night and a loss perhaps of half the next day's work. When dinner was over he played backgammon with his wife, two games being played every night. He became extremely animated over these games, bitterly lamenting his bad luck and exploding with exaggerated mock anger at his wife's good fortune. After playing backgammon he would read some scientific book to himself either in the drawing room, or, if much talking was going on, in the study. When he had read as much as his strength would allow, and before the reading aloud began, he would often lie on the sofa and listen to his wife playing the piano. He used to lament that his enjoyment of music had become dulled with age, yet within his son's recollection his love of a good tune was strong. From his want of ear, he was unable to recognize a tune when he heard it again, but he remained constant to what he liked, and would often say, when an old favorite was played, "That's a fine thing; what is it?" Of late years he became very tired in the evening, and left the drawing room about 10. His nights were generally bad, and he often lay awake or sat up in bed suffering much discomfort. He was troubled at night by the activity of his thoughts, and would become exhausted by his mind working at some problem which he would willingly have dismissed.

VIII.

In money and business matters Darwin was remarkably careful and exact. He kept accounts with great care, classifying them and balancing at the end of a year like a merchant. He had a pet economy in paper, but it was rather a hobby than a real economy. All the blank sheets of letters received were kept in a portfolio, to be used in making notes. It was his respect for paper that made him write so much on the backs of his old MS., and in this way he destroyed large parts of the original MS. of his books. His feeling about paper extended to waste paper, and he would object, half in fun, to the habit of throwing a spile into the fire after it had been used for lighting a candle. He had a great respect for pure business capacity, and often spoke with admiration of a relative who had doubled his fortune. Of himself he would often say in fun that what he really was proud of was the money he had saved. He also felt satisfaction in the money he made by his books. His anxiety to save came in great measure from his fear that his children would not have health enough to earn their own living, a foreboding which haunted him for many years. His son Francis recalls his saying at a time when the boy was so young as to be inclined to take the words literally, "Thank God, you will have bread and cheese."

The regular readings, continued for many years, enabled Darwin to get through a great deal of the lighter kinds of literature. He was extremely fond of novels; he took a vivid interest both in plot and character, and would on no account know beforehand how a story finished; he considered looking at the end of a novel a feminine vice. He could not enjoy any story with a tragical ending. For this reason he did not keenly appreciate George Eliot. Walter Scott, Miss Austen, and Mrs. Gaskell were reread till they could be read no more. He used to have two or three books in hand at the same time—a novel, and perhaps a biography, and a book of travels. He did not often read out-of-the-way or old standard books, but generally kept to the books of the day obtained from a circulating library. His literary tastes and opinions were not on a level with the rest of his mind. He himself, though he was clear as to what he thought good, considered that in matters of literary taste he was quite outside the pale, and often spoke of what those within it liked or disliked as if they formed a class to which he had no claim to belong. In matters of art, he was inclined to laugh at professed critics, and say that their opinions were formed by fashion. He would often speak laughingly of the small worth of portraits, and say that a photograph was worth any number of pictures, as if he were blind to the artistic quality in a painted portrait. But such things were generally said in his attempts to persuade his children to give up the idea of having his portrait painted, an operation very irksome to him. This way of looking at himself as an ignoramus in all matters of art was strengthened by the absence of pretence which was part of his character. Nevertheless, with regard to questions of taste, as well as to more serious things, he had the courage of his opinions.

Much of his scientific reading was in German, and this was a serious labor to him. His son says that in reading a book after him he has been often struck, at seeing from the pencil marks made each day where he left off, how little his father could read at a time. Darwin used to call German the "Verdammte," pronounced as if in English. He was especially indignant with Germans because he was convinced that they could write simply if they chose, and often praised a certain professor for writing German which was as clear as French. He himself learned German by hammering away with a dictionary; he would say that his only way was to read a sentence a great many times over, and at last the meaning would occur to him. When he first began German he boasted of the fact (as he used to tell) to Sir J. Hooker, who replied: "Ah, my dear fellow, that's nothing; I have begun it many times." In spite of his want of acquaintance with the grammar, Darwin managed to get on wonderfully with German, and the sentences that he failed to make out were generally difficult ones. He never attempted to speak German correctly, but pronounced the words as if they were English. He unquestionably had a bad ear for vocal sounds, so that he found it impossible to detect small differences in pronunciation.

We should mention finally that his wide interest in branches of science that were not specially his own was remarkable. In the biological sciences, his doctrines made themselves felt so widely that there was something interesting to him in most departments. He read a good deal of quite special works and large parts of text books, where the detail, at any rate, was not in his own line. In the case of elaborate books of the monograph type, though he did not make a study of them, yet he felt the strongest admiration for them. In the non-biological sciences he felt keen sympathy with works of which he could not really judge. For instance, he used to read nearly the whole of *Nature*, though so much of that journal deals with mathematics and physics. His son often heard him say that he got a kind of satisfaction in reading articles which, according to himself, he could not understand.

Before taking leave of this truly delightful biography, we would record an incident which we find chronicled for the first time in this volume. In the year 1878, Darwin received a singular mark of recognition in the form of a letter from a stranger announcing that the writer intended to leave to him the reversion of the greater part of his fortune. Mr. Anthony Rich, who desired thus to mark his sense of Darwin's services to science, was the author of a dictionary of Roman and Greek antiquities, which had been translated into French, German, and Italian, and has in English gone through several editions. Mr. Rich lived a great part of his life in Italy, painting and collecting books and engravings. He finally settled in Worthing, where he was a friend of Byron's Trelawny. As a matter of fact, Mr. Rich outlived Darwin by nine years, for he did not die until April, 1891, but he arranged that his bequest should not lapse in consequence of Darwin's predecease.

M. W. H.

AIX LES BAINS IN WINTER.

An Out of Season Visit to a Famous Watering Place—Trouble Well Repaid.

AIX-EN-SAVOIE, Jan. 1.—Aix-les-Bains, the bright, sunny, Savoyard city and watering place, which lives in the memory of summer travellers as a town gay with foliage and flowers, gayer still with the flutter of elegant and fashionable toilets, alive with laughter, music, and the bustle of its 30,000 visitors, seeking either a cure for their ailments or one for their *ennui*, is in midwinter so dead, so deeply plunged in a lethargic sleep, that it seems a city whence all human life has forever fled.

It is easier for the solitary wanderer to seek shelter and food at Chambery than to attempt to obtain them from the landlords he once knew so hospitable, who are securely barricaded behind their barred doors and shutters. The broad-balconied facades of the numerous hotels rise grim with sternly shut windows, neither emitting nor admitting a ray of light; the streets are deserted. The shops are no longer open, the horses and carriages are at Nice, the waiters and trim chambermaids scattered along the Riviera, the bands and orchestras in Paris. The proprietors, who have grown fat on the golden summer harvest, either spend their earnings elsewhere or burrow unseen in their prison-like houses.

The most changed and dismal spots of Aix are incontestably the square, or place, where the palm trees are swathed in straw, and the *Etablissement Thermal*, whose lonely guardian wanders disconsolately under the stone porticos. If this worthy functionary is asked to show the unexpected visitor over the immense building he is stricken with almost superstitious awe, and does so under protest. He precedes you with a wondering air of suspicion and doubt along the extensive galleries, the admirably arranged baths, waiting rooms, and springs, and points out, still protesting, all the elaborate system of the *cure*. Alluring as the *etablissement* is made for invalids, at the season when they are supposed to come, with its sedan chairs, carpets, flowers, its staff of smiling doctors and *empressé* attendants, it is depressing beyond conception now; gradually it gives the impression of some ghostly dream, and even the water beating faintly against the marble tanks seems to sob and moan. Dark, mysterious passages lead apparently to deeper gloom, and now and then from the perspiring walls of the hot cells a suffocating heat exudes, recalling that of some volcanic strata. And yet over these melancholy survivors of the departed gay and fashionable crowds hovers the majesty of silence and solitude, and the fascinations of memories all the sweeter from being more distant. Few have ever spent a season at Aix without beginning or closing some romance which for the short halcyon days was infinitely entrancing and absorbing.

Besides, for those to whom these do not appeal there is a different charm. At the very threshold of the watering place nature asserts itself triumphantly; no longer vulgarized, belittled, and modernized by the frippery of society and rank as it is between June and September, but restored to its original simplicity and grandeur by the severe breath of November, December, and January. Over the Lac du Bourget the north wind whirls the hurrying snow; it floats long before tumbling into the blue waters which it turns to steel; angered at last by the capricious onset, the quiet mountain lake gets wrathful and lashes itself into the fury of a miniature sea. If you have taken a steam yacht to go and visit a friend on the opposite shore you soon perceive that you are unpleasantly rocked, although your progress is not impeded; only the snow, astonished at your presumption, appears diverted from its purpose, and wreathes you round with its tarrying flakes till all around is of the same moving white veil and you are unaware of any change till abruptly the shore and a hospitable country house rise out of the curtain. Then, quite as suddenly, arrows of bright sunshine dispel the snow, revealing the horizon, the distant peaks of Maurienne, and on the lower ridges the chapels and chalets, the castles and monasteries, and near *Dent du Chat* old historic Hautecombe.

From St. Gilles to the latter place the road by land skirts the domain of the King of Italy in circuitous meanderings; the air is singularly crisp and clear; cold without harshness, making walking a pleasure and motion an enjoyment. Even the hackneyed Grotto of Raphael assumes some interest, and the ascension to Hautecombe begins in good earnest.

Hautecombe is the sepulture of princes; 300 august coffins are placed below the floor of the church, and the imagination of generations of Italian sculptors and artists has conceived and executed the royal monuments of every style that adorn it. However, with its pure white marble walls and blue domes, the church is not so imposing as the Grande Chartreuse, nor has the surrounding scenery the rugged majesty of that mountain keep, but it has a serene gravity which is very characteristic. The monks of Hautecombe, all robed in white, are courteous, gentle, and hospitable, and they retail the quaint legends of the locality with the fluency of habit and a naïve consciousness of being interesting. The foot of the mountain on which the necropolis of Hautecombe stands bathes in the lake and faces to the north the *Colombier*, taking all the rosy hues of the pink sunset, and, with a little imagination, contrasting it with the sombre monastery of tombs, it might be compared, floating as it does in midair, to a Savoyard *Venusberg*.

The Lac du Bourget, with its belt of moderately high mountains and hills, has essentially "the Alpine grace," of which Victor Hugo speaks. The effect is fine, but not forbidding; the scenery has its snow storms, icicles, drifts, shadowy, serried pines, and its brief Arctic aspects. But it has also its frequent, sudden bursts of glorious sunshine dispersing the blizzards, melting the snow, or converting it into sparkling diamond fields, bringing out the obliterated sharp silhouettes of the rocky ridges, and defining the range almost as rapidly as it had vanished. Savoy is not, perhaps, the place to spend the whole winter happily, but if accident, or some other cause, has brought you there for a few short days at the close of the year, it is more than probable that there will ever after exist a latent yearning to revisit it under the same conditions. And, after all, the civilization, comforts, and gayeties of the summer season have not migrated beyond reach; Chambery is close at hand, and beyond it Paris to the north and Italy to the south make the little halt only a new and not unpleasant sensation.

M. DE S.

Appreciative.

From the Indianapolis Journal.

"My old aunt out in Brown county has sent me a jar of brandied peaches," said Mr. Lushforth to a row of friends. "Now, while I don't like peaches, still, I fully appreciate the spirit in which they were tendered."